AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A method of manufacturing a radiation detector having one or more conductive contacts on a semiconductor substrate, the method including the steps of:

applying a first conductive layer to a first surface of the semiconductor substrate;

applying a second conductive layer to form a plurality of contiguous layers of conductive materials, said plurality of contiguous layers including said first conductive layer; ~~and~~

selectively removing parts of said plurality of contiguous layers so as to form said conductive contacts, the conductive contacts defining one or more radiation detector cells in the semiconductor substrate; and

forming a layer of passivation material on said conductive contacts and the regions around conductive contacts; and removing portions of said passivation material overlying said conductive contacts to expose the conductive contacts.

2. (Original) A method according to claim 1, including applying a third layer between said first and second layers, said third layer being a conductive layer.

3. (Original) A method according to claim 1, including applying a further layer to the second layer, said further layer being a conductive layer.

4. (Canceled)

5. (Original) A method according to claim 1, including:

forming a layer of photoresistive material on said substrate surface;

selectively exposing said photoresistive material and removing said photoresistive material from areas corresponding to said contact positions to expose said semiconductor substrate surface;

forming at least said first and second layers of conductive material on remaining photoresistive material and on said exposed semiconductor substrate surface; and

removing conductive material overlying said remaining photoresistive material by removing said remaining photoresistive material.

6. (Currently Amended) A method according to claim [[4]]1, wherein the step of removing portions of said passivation material overlying said conductive contacts to expose the conductive contacts comprises:

forming a further layer of photoresistive material over said passivation layer;

selectively exposing said further layer of photoresistive material and removing said further photoresistive material to expose portions of said passivation layer corresponding to said contact positions;

removing said exposed portions of passivation material; and

removing remaining further photoresistive material.

7. (Original) A method according to claim 6, wherein said portions of said passivation layer are removed from areas smaller than the size of said conductive contacts such that the passivation layer overlaps said conductive contacts.

8. (Original) A method according to claim 1, wherein each of said first and second layers is applied by sputtering, evaporation, electrolytic deposition, or electroless deposition.

9. (Original) A method according to claim 1, including forming a layer of conductive material on a surface of said substrate opposite to said first surface.

10 - 31. (Canceled)

32. (Original) A method of manufacturing a radiation imaging device comprising: manufacturing a radiation detector in accordance with claim 1; and individually connecting individual detector cell contacts for respective detector cells to corresponding circuits on a readout chip.

33. (New) A method of manufacturing a radiation detector having one or more conductive contacts on a semiconductor substrate, the method including the steps of:

applying a first conductive layer to a first surface of the semiconductor substrate;

applying a second conductive layer to form a plurality of contiguous layers of conductive materials, said plurality of contiguous layers including said first conductive layer;

selectively removing parts of said plurality of contiguous layers so as to form said conductive contacts, the conductive contacts defining one or more radiation detector cells in the semiconductor substrate;

forming a layer of photoresistive material on said substrate surface;

selectively exposing said photoresistive material and removing said photoresistive material from areas corresponding to said contact positions to expose said semiconductor substrate surface;

forming at least said first and second layers of conductive material on remaining photoresistive material and on said exposed semiconductor substrate surface; and

removing conductive material overlying said remaining photoresistive material by removing said remaining photoresistive material

34. (New) A method according to claim 33, including applying a third layer between said first and second layers, said third layer being a conductive layer.

35. (New) A method according to claim 33, including applying a further layer to the second layer, said further layer being a conductive layer.

36. (New) A method according to claim 33, including forming a layer of passivation material on said conductive contacts and the regions around conductive contacts; and removing portions of said passivation material overlying said conductive contacts to expose the conductive contacts.

37. (New) A method according to claim 36, wherein the step of removing portions of said passivation material overlying said conductive contacts to expose the conductive contacts comprises:

forming a further layer of photoresistive material over said passivation layer;

selectively exposing said further layer of photoresistive material and removing said further photoresistive material to expose portions of said passivation layer corresponding to said contact positions;

removing said exposed portions of passivation material; and

removing remaining further photoresistive material.

38. (New) A method according to claim 37, wherein said portions of said passivation layer are removed from areas smaller than the size of said conductive contacts such that the passivation layer overlaps said conductive contacts.

39. (New) A method according to claim 33, wherein each of said first and second layers is applied by sputtering, evaporation, electrolytic deposition, or electroless deposition.

40. (New) A method according to claim 33, including forming a layer of conductive material on a surface of said substrate opposite to said first surface.

41. (New) A method of manufacturing a radiation imaging device comprising: manufacturing a radiation detector in accordance with claim 33; and individually connecting individual detector cell contacts for respective detector cells to corresponding circuits on a readout chip.